A SYSTEMATIC OPERATION FOR PENILE HYPOSPADIAS AND OTHER DEFECTS OF THE URETHRAL FLOOR.

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In the New York *Medical Journal* of April 29, 1905, in an article entitled "Contribution to the Plastic Surgery of the Urethra," I outlined a number of procedures for the restoration of the urethra in lesions of varying extent and severity. In this article I formulated principles of technique which, I think, must, when conscientiously followed, solve many of the problems of "urethra building." I have applied these same principles to the relief of penile hypospadias, and have, I believe, thereby solved one of the most trying of surgical problems. I will state that, in my operation, the technique devised by my friend, Dr. Carl Beck, of New York, is exactly reversed. It has been my experience that in cases of penile hypospadias in which the deformity is marked, the urethra is contractured bow-string-wise, and that Beck's operation is likely in most cases to make a bad matter worse, especially so far as the sexual function is concerned. It will be noted that in the operation herewith presented the patient's condition cannot possibly be aggravated, the deficiences of neither the sexual nor the urinary function being increased by the operation. In case of failure the tissues involved are not of sufficient importance, nor so scanty as to increase the deformity; neither will one or several failures prevent further operative efforts. The principles of the technique are the same as those described in my article already mentioned.

The preliminary operation for curvature, and urethral transplantation are, of course, unnecessary in cases of extensive destruction of the anterior urethra by traumatism or disease. Three highly successful cases of operation for penile hypospadias have proven to my own satisfaction the correctness of

FIG. 1.

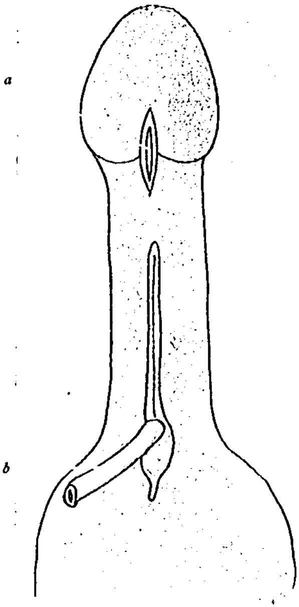


FIG. 2.

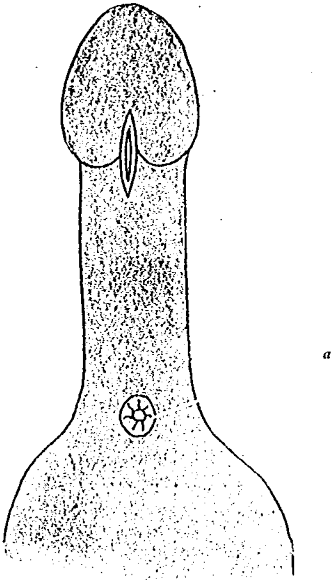


FIG. 3.

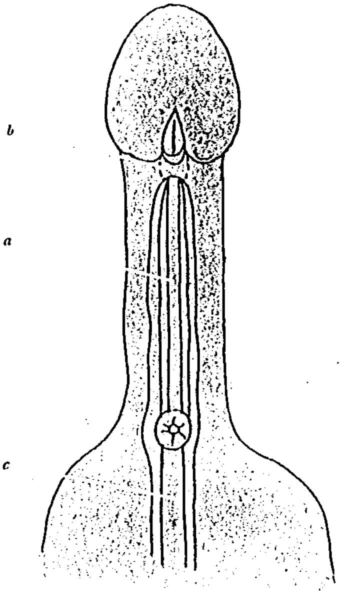
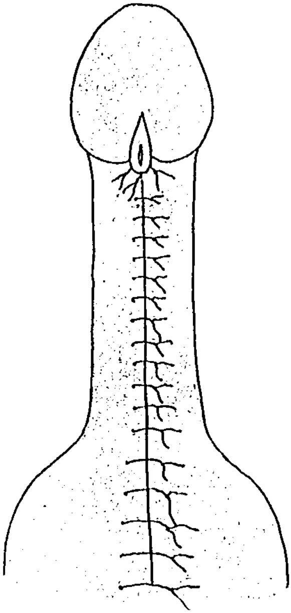


FIG. 4.



the technique, and that it is the ideal method for such cases. The three cases were almost identical, and the operative technique the same. I append in detail, illustrations showing the various stages of the operation, in my last case.

CASE: A youth of seventeen presented himself with penile hypospadias, the meatus opening about an inch and a half posterior to the base of the glans. The penile curvature was so marked that the sexual function was destroyed. Micturition was normal, but the patient complained of soiling of the clothing by the urine. The normal meatus was represented by a cleft, (a. Fig. 1) and the urethra anterior to the pseudo-meatus was entirely absent.

PRELIMINARY OPERATION. The corpus spongiosum was dissected from the body of the organ, and all constricting bands of fascia upon the under surface of the corpora cavernosa divided. The incision was begun anteriorly, just in front of the pseudo-meatus. The corpus spongiosum urethræ having been dissected free, as shown in Fig. 1b., the muco-cutaneous border of the pseudo-meatus was trimmed away, no further resection of the apparently redundant urethra being necessary. As soon as the organ was straightened, a little tension on the perineal urethra with the thumb and fingers caused the freed urethra to sink well down within the perineo-scrotal space. The margin of the anterior extremity of the freed urethra was now split above and below, and the skin and mucous membrane sutured with fine catgut so as to insure permanency of the new meatus, which was located just at the peno-scrotal angle. Fig. 2a.)

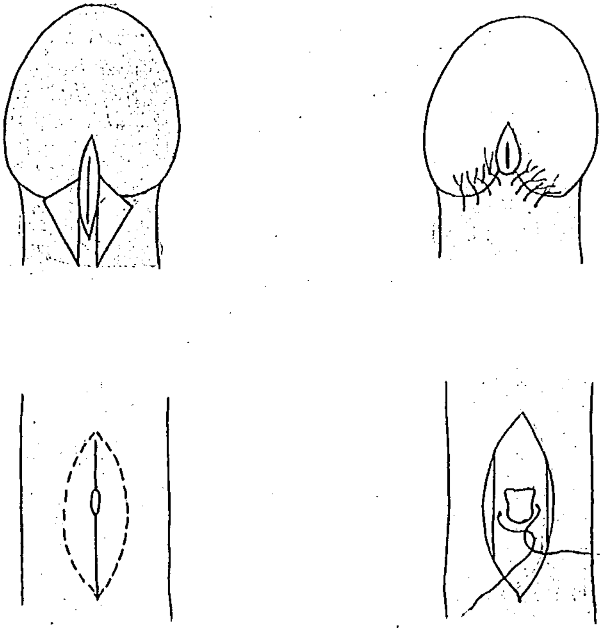
The incision on the under surface of the penis was now closed, and the organ strapped up over the abdomen, so as to hold it straight and immobile, as near as might be.

A second operation to restore the caliber of the meatus had to be made on account of the patient's negligence, in failing to report for dilation. The patient was confined to bed for two weeks. Ninety days later, the new meatus at the peno-scrotal angle having retained its patency, and the cicatricial tissue about it and on the under surface of the penis in the line of the longitudinal incision made for the purpose of freeing the corpus spongiosum having become reduced to a minimum, the final operation was performed.

A perineal puncture was first made and catheter drainage established. Two longitudinal incisions were made upon the under surface of the penis, beginning at a point about three-quarters of an inch posterior to the cleft approximately representing the normal site of the meatus. A strip of skin a little over ⅛ of an inch in width was left upon the under surface of the penis, this strip of skin being continuous with the mucosa of the roof of the urethra at the peno-scrotal angle. (Fig. 3a.) This strip of skin was designed to form the roof of the new penile urethra. (A very narow strip of skin is sufficient. During repair the epithelium is reproduced to a sufficient extent to thoroughly cover in the roof of the new urethra.) The skin was now dissected up laterally to the right and left on the under surface of the penis for a distance of about three-quarters of an inch. This was continued forward in such a way as to form a bridge anteriorly by tunneling to a point corresponding to the posterior commissure of the cleft already described. (Fig. 3b.) This bridge of tissue was raised and the quasi-mucous membrane at the bottom of the cleft stitched to the anterior extremity of the strip of skin above described. This completed the roof of the new canal. A rectangular longitudinal flap was now outlined in the median line of the scrotum this flap being a little less than an inch in width. (Fig. 3c.) A strip of epithelium, one-half inch wide, in the center of this flap was preserved and the outer borders of the outlined flap denuded of epithelium. The flap was now dissected free, its corners rounded slightly, and the flap brought forward and upward, its anterior extremity being stitched to the borders and sides of the space beneath the bridge of skin anteriorly. (Dotted line, Fig. 3.) The edges of this flap were stitched upon either side with fine catgut to the fascia of the penis at the base of the lateral penile flaps. This completed the edges of the lateral flaps and the edges of the wound made in the formation of the scrotal flap were stitched together with horsehair. The completed operation is shown in Fig. 4.

The progress of the case was uneventful. A very small area of sloughing was formed at the anterior extremity of the flap, so that the new meatus was perhaps one-quarter of an inch longer than it would have been had the sloughing not occurred. At the end of three weeks the patient was urinating normally through the new urethral canal; the deformity was completely

FIG. 5.



relieved, and the conditions were as satisfactory as one could wish.

In my first two cases of the kind no sloughing whatever occurred.

I wish to reiterate what I have in substance already stated, that in case of complete failure of an operation of this kind the patient is no worse off than before the operation. Failure could hardly be complete in any case, and any portions of the flaps that retain their integrity will be so much gained. Subsequent operations can be readily made, as the tissues from which the flaps were formed are abundant. In making the urethral floor the entire thickness of the scrotum should be employed, and care should be taken not to "score" it. I believe that the tendency on the part of the surgeon would naturally be to thin down the edges or anterior extremity of the flap. I wish to warn against this, as the essence of the operation is in the preservation of the vitality of the scrotal flap.